

### **REMARKS**

Pursuant to 37 C.F.R. § 1.111, Applicants respectfully request reconsideration of the claim rejections set forth in the Office Action dated November 14, 2006.

#### **Summary**

Claim 1 is currently amended.

Claims 1 – 8 and 63 – 68 are currently pending.

#### **Information Disclosure Statement**

Applicant is enclosing a Fifth Supplemental Information Disclosure Statement (IDS) and a corresponding PTO 1449. Applicant respectfully requests that the Examiner make the references of record and return a copy of the initialed IDS in the next Office communication.

#### **Claim Rejections – 35 U.S.C. § 103**

Claims 1 - 6, 8 - 9, and 64 - 68 were rejected pursuant to 35 U.S.C. § 103(a) as being unpatentable over Murata et al. (U.S. Patent 5,423,915) in view of Patrick et al. (U.S. Patent 5,474,648). Claim 7 was rejected pursuant to 35 U.S.C. § 103(a) as being unpatentable over Murata et al. and Patrick in view of Stramke (U.S. Patent 4,645,981). Claims 10 and 63 were rejected pursuant to 35 U.S.C. § 103(a) as being unpatentable over Murata et al. in view of Patrick and Hoke (U.S. Patent 5,077,875).

Claim 1 recites, *inter alia*, a set of electrical radio frequency factors of the plasma processing chamber configured such that at an end of the radio frequency feeder a frequency, which is three times a first series resonant frequency  $f_0$  of the plasma processing chamber, is larger than a power frequency  $f_e$  of the radio frequency waves.

As expressed by the Examiner, "Murata does not teach a frequency which is three times a first series resonant frequency  $f_0$  of the plasma processing chamber" (Office action dated November 14, 2006; page 4). The Examiner relied on an

"intended use" argument to exclude the limitation from consideration (Office action dated November 14, 2006; page 5). Applicant respectfully submits that claim 1 recites structural limitations that are distinguishable from the teaching of Murata et al. Claim 1 recites a set of electrical radio frequency factors and a plasma processing chamber that are configured such that a certain frequency is produced. This is a structural limitation. The recited frequencies are not being "used" as suggested by the Examiner. The recited frequencies limit the structure of the plasma processing chamber to a specific configuration. Although broad in nature, the limitation defines the structural make-up of the plasma processing chamber. The plasma processing chamber being configured in a specific manner is not an intended use. Accordingly, claim 1 is allowable over the cited reference.

Patrick et al. fail to disclose or suggest a set of electrical radio frequency factors of the plasma processing chamber configured such that at an end of the radio frequency feeder a frequency, which is three times a first series resonant frequency  $f_0$  of the plasma processing chamber, is larger than a power frequency  $f_e$  of the radio frequency waves. "The Examiner believes Patrick's apparatus is inherent in setting a frequency  $f_0$  corresponding desired, or optimized values" (Office action dated November 14, 2006; page 9). The Examiner cites "optimized values" for the recited frequency. However, Patrick does not disclose the recited frequencies as optimized values. In addition, Patrick et al. fail to teach a plasma processing chamber that is configurable such that a specified frequency is provided. In contrast, Patrick et al. requires a computer system 204 that continuously "uses the sensor information to dynamically and pro-actively control the output power of the radio frequency power generator so that a desired power profile over time is available at the chamber electrode" (col. 4, lines 56 – 60). Accordingly, claim 1 is allowable over the cited reference.

Dependent Claims 2 – 9 depend from an allowable base claim and are allowable for at least this reason.

Independent Claim 63 recites a feature that is similar to recited Claim 1. Accordingly, Claim 63 is allowable over the cited for at least the same reasons as discussed above.

Dependent Claims 64 and 65 depend from an allowable base claim and are allowable for at least this reason.

Independent Claim 66 recites, *inter alia*, at least one of the shape of a feed plate, the overlapping area of the plasma excitation electrode and a chamber wall, insulation material between the plasma excitation electrode and the chamber wall, or the capacitance between a susceptor electrode and the chamber wall is adjusted such that three times the first series resonant frequency  $f_0$  is larger than a power frequency  $f_p$  supplied from the radio frequency generator. Patrick et al. Murata et al. fail to disclose adjusting the properties recited in Claim 66. Accordingly, Claim 66 is allowable over the cited prior art.

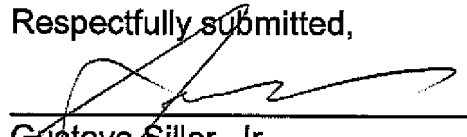
Dependent Claims 67 - 68 depend from an allowable base claim, so are allowable for at least this reason.

**SUMMARY**

For at least the reasons given above, the Applicants respectfully submit that the pending claims are allowable and request that a Notice of Allowance issue.

The Examiner is respectfully requested to contact the undersigned in the event that a telephone interview would expedite consideration of the application.

Respectfully submitted,



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